



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

DIVISION OF HIGHWAYS

GARLAND B. GARRETT JR.
SECRETARY

December 1, 1997

MEMORANDUM

TO: Whitmel H. Webb, P. E.
Manager
Program Development Branch

FROM: David Modlin, P. E. *David*
Feasibility Studies Unit

SUBJECT: NC 12, the One-mile section just south of the Oregon Inlet Bridge

At the request of Calvin Leggett, P. E., Director of Planning and Programming, the Feasibility Studies Unit has investigated three alternates for improving the one-mile section of NC 12 south of the Oregon Inlet Bridge. The section in question is susceptible to being covered with sand and being flooded during storms which generate surges that top the dunes.

The three alternates studied are: (1) raising the grade of existing NC 12, (2) relocating the roadway approximately 350 feet west of the existing with the new roadway at grade, and (3) relocating the roadway approximately 350 feet west of existing with the new roadway on structure. Alternate (1) is approximately 1.0 miles in length; Alternate (2), 1.4 miles; and Alternate (3), 1.4 miles.

Alternate (1) considers raising the grade of the existing roadway approximately 2 feet. This would provide the opportunity, in conjunction with cross drainage, for water to be moved westward off the roadway in a general way. The studied cross section is 22 feet of pavement with 4-foot paved shoulders. However, given the presence of both primary and secondary dunes, the roadway is literally in a "ditch". Alternate (1) is not a solution to the problem of sand on the roadway and not a real solution to standing water along the entire problem section.

Alternate (2) involves relocating the existing roadway (consistent with B-2500 plans) approximately 350 feet westward utilizing Project R-3113 as the model. The additional 0.4 mile of construction is the tie back to existing NC 12. The studied cross section is 22 feet of pavement with 4-foot paved shoulders. There have been comments that Project R-3113 has not been entirely satisfactory.



Alternate (3) involves relocating the existing roadway (consistent with B-2500 plans) approximately 350 feet westward with the new roadway on structure for approximately 1.0 mile with an additional 0.4 mile of construction to tie back to existing NC 12. The estimated height of structure is 15 feet. The studied structure width is 36 feet clear roadway.

The existing roadway is within the Pea Island National Wildlife Refuge. The project would be subject to significant permitting requirements, including CAMA, Ocean Hazard Setback, Corps of Engineers wetland mitigation, and possible threatened and endangered species.

No right of way costs were estimated for this project. Given the area, it is assumed that the existing NC 12 roadway bed would be traded and mitigated in return for the relocated NC 12 roadway bed.

The estimated construction costs for the studied alternates are as follows:

Alternate (1), raise the grade 2 feet	\$ 2,050,000
Alternate (2), relocate 350 west w/roadway	1,800,000
Alternate (3), relocate 350 west w/bridge	13,400,000